Commonwealth of Virginia's Communications Interoperability

The Federal Perspective Panel

2006
Virginia
Interoperable
Communications
Conference

Federal Perspective on Interoperability

2006 Virginia Interoperable Communications Conference

Dr. David Boyd
Director
C4ISR
Science and Technology Directorate
October 4, 2006

Defining the Problem

Emergency responders often have difficulty exchanging voice and data communications when adjacent emergency response agencies are assigned to different radio bands, use incompatible proprietary systems and infrastructure, and lack adequate standard operating procedures and effective multi-jurisdictional, multi-disciplinary governance structures.
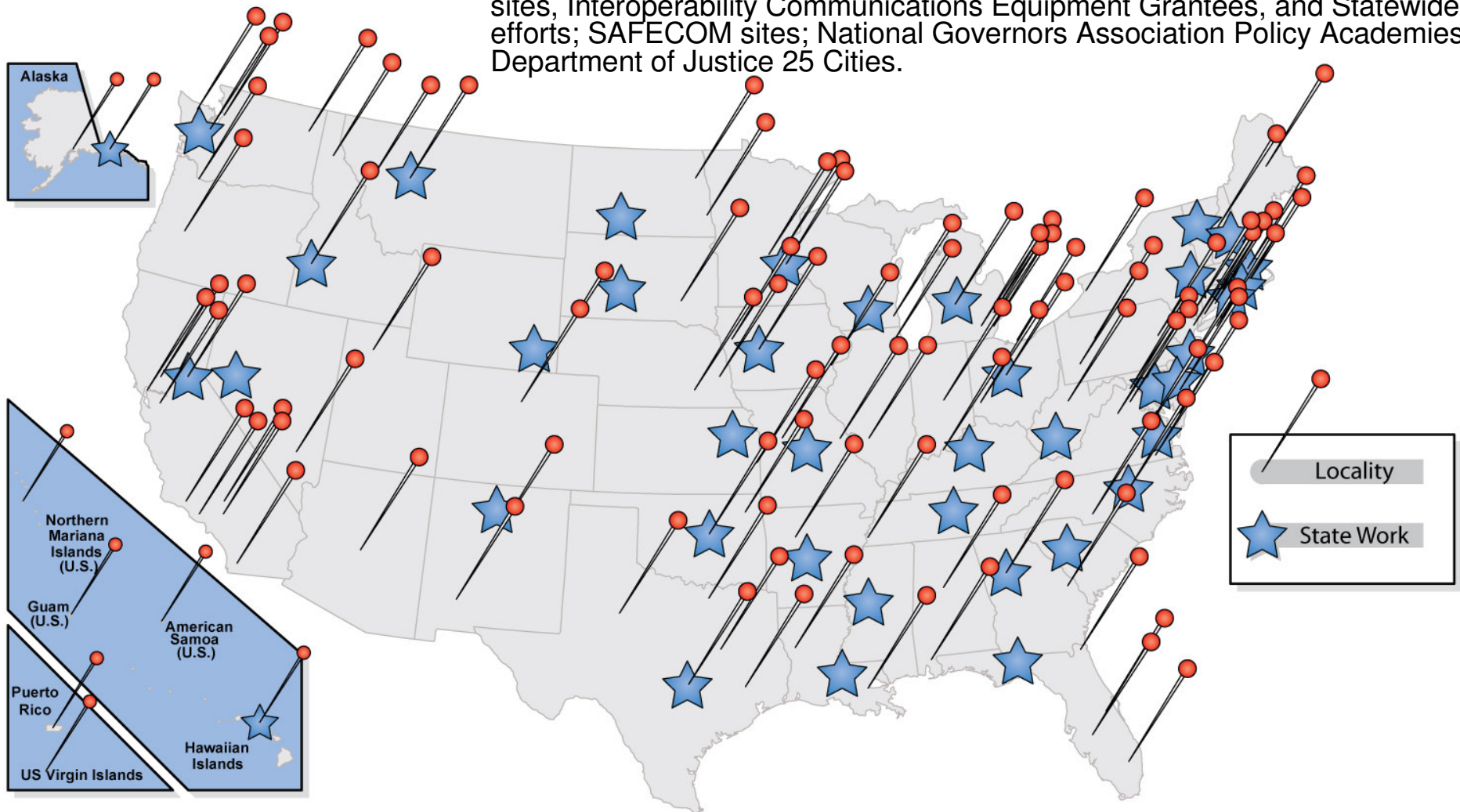

Effective communications can mean the difference between life and death.

Homeland Security

Federal Interoperability Initiatives

Includes: Community Oriented Policing Services Grantees; Office of Grants and Training's Interoperable Communications Technical Assistance Program sites, Interoperability Communications Equipment Grantees, and Statewide efforts; SAFECOM sites; National Governors Association Policy Academies; Department of Justice 25 Cities.

Alaska

Northern Mariana Islands (U.S.)

Guam (U.S.)

American Samoa (U.S.)

Puerto Rico

US Virgin Islands

Hawaiian Islands

Locality

State Work

Homeland Security

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OIC Background

The Department of Homeland Security (DHS) established the Office for Interoperability and Compatibility (OIC) in 2004 to strengthen and integrate interoperability and compatibility efforts in order to improve local, tribal, state, and Federal emergency preparedness and response. Managed by the Science and Technology (S&T) Directorate, OIC is assisting in the coordination of interoperability efforts.

OIC programs and initiatives address critical interoperability and compatibility issues. Priority areas include communications, equipment, and training.

Voice and Data Interoperability Programs

OIC's communications portfolio is currently comprised of the SAFECOM and Disaster Management (DM) programs.

SAFECOM primarily addresses voice interoperability. The program is addressing creation of the capacity for increased levels of interoperability by developing tools, best practices, and methodologies that emergency response agencies can put into effect immediately, based on feedback from emergency response practitioners.

DM primarily addresses data interoperability and information sharing. DM is improving incident response and recovery by developing tools and messaging standards that help emergency responders manage incidents and exchange information in real time.

Together, SAFECOM and DM are providing state and local emergency responders with resources intended to address all aspects of communications interoperability.
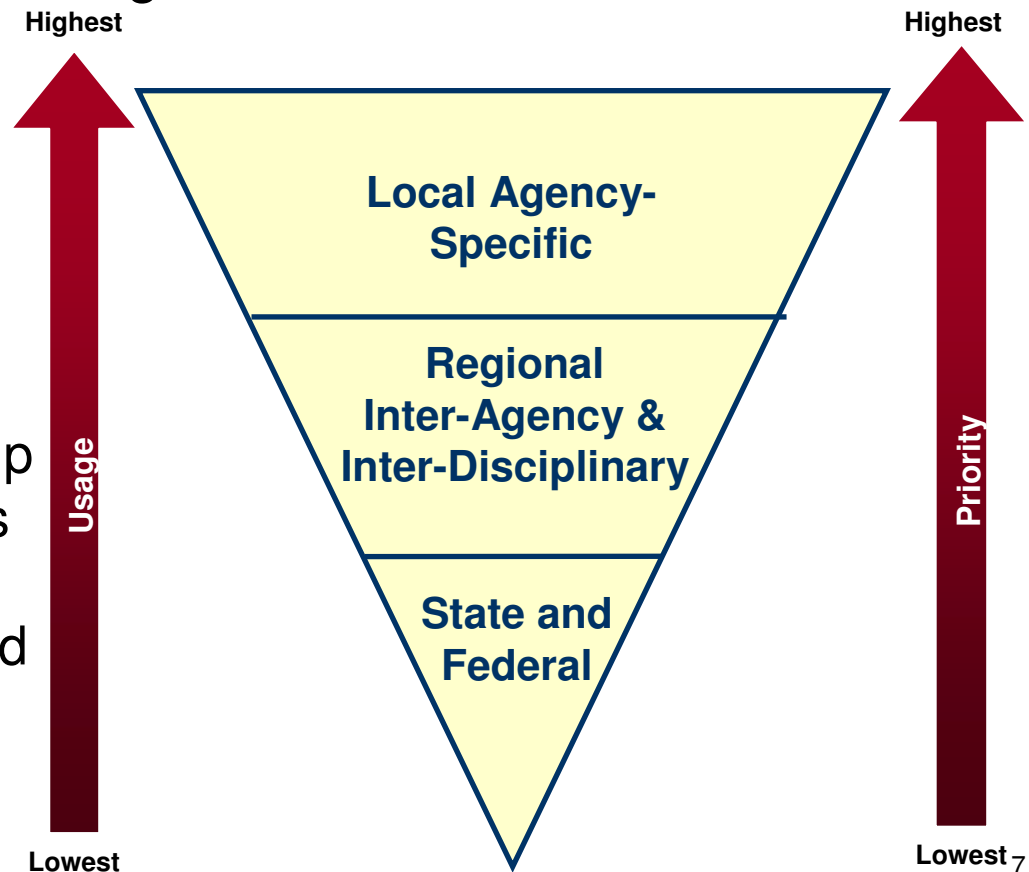
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Practitioner-Driven Approach

SAFECOM and DM both advocate a unique, "bottom-up" approach. The programs' practitioner-driven governance structures benefit from the critical input of the emergency response community and from local, tribal, state, and Federal policy makers and leaders. This input ensures that OIC resources are aligned with state and local needs.

- SAFECOM's Executive Committee and Emergency Response Council facilitate the input of emergency responders, policy makers, and leaders.

- DM's Practitioner Steering Group ensures that initiatives and tools effectively meet practitioners' information-sharing priorities and requirements.

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Highest

Usage

Local Agency-Specific

Regional Inter-Agency & Inter-Disciplinary

State and Federal

Lowest

**Highest**

Priority

Lowest 7

Statewide Planning Workshop and Policy Academies

- SAFECOM is partnering with the National Governors Association (NGA) and the National Public Safety Telecommunications Council (NPSTC) to host a Statewide Planning Workshop where states and local communities can work on portions of their statewide plans.

- SAFECOM is partnering with NGA and the National Association of Counties (NACo) to work with state and local constituencies on statewide planning through policy academies.

- NGA will host 10 policy academies with 10 different states, beginning with Washington, Alabama, Minnesota, Indiana, and Montana. NACo will hold four policy academies with their constituents over a two-year period.

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Usable, Accessible Tools and Resources

OIC delivers a broad range of tools and resources to the emergency response community. *All of them:*

- Incorporate requirements driven by emergency responders.

- Have been field tested by local practitioners.

- Can be easily replicated across the Nation.

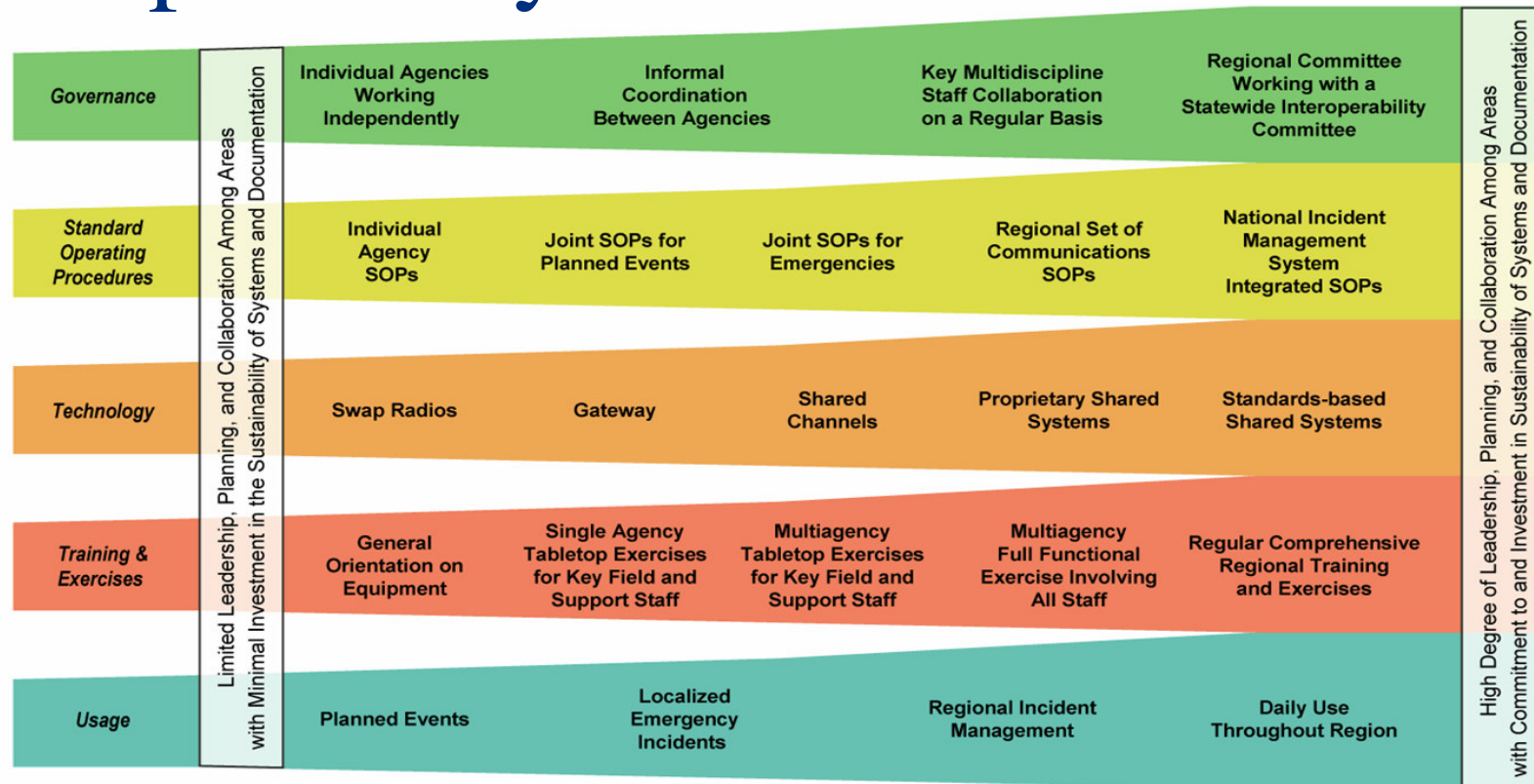- Are available free of charge to the emergency response community.
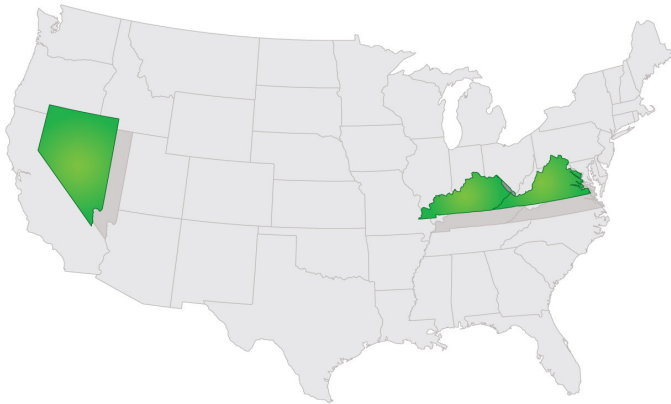
Disaster Management Interoperability Services
Mapping Capability

Homeland Security

Interoperability Continuum

Governance	Limited Leadership, Planning, and Collaboration Among Areas with Minimal Investment in the Sustainability of Systems and Documentation	Individual Agencies Working Independently	Informal Coordination Between Agencies	Key Multidiscipline Staff Collaboration on a Regular Basis	Regional Committee Working with a Statewide Interoperability Committee
Standard Operating Procedures		Individual Agency SOPs	Joint SOPs for Planned Events / Joint SOPs for Emergencies	Regional Set of Communications SOPs	National Incident Management System Integrated SOPs
Technology		Swap Radios / Gateway	Shared Channels	Proprietary Shared Systems	Standards-based Shared Systems
Training & Exercises		General Orientation on Equipment / Single Agency Tabletop Exercises for Key Field and Support Staff	Multiagency Tabletop Exercises for Key Field and Support Staff	Multiagency Full Functional Exercise Involving All Staff	Regular Comprehensive Regional Training and Exercises
Usage		Planned Events	Localized Emergency Incidents	Regional Incident Management	Daily Use Throughout Region

High Degree of Leadership, Planning, and Collaboration Among Areas with Commitment to and Investment in Sustainability of Systems and Documentation

Minimal Level ← Interoperability Continuum → Optimal Level

The Interoperability Continuum helps the emergency response community and policy makers plan and implement interoperability solutions.

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Tools and Resources Available *Today*

OIC is committed to developing tools—methodologies, templates, models, and educational materials—that emergency response agencies can use immediately:

- **Statewide Communications Interoperability Planning Methodology**: Step-by-step planning guide for developing a locally driven statewide strategic plan, setting the foundation for interoperable communications

- **Statement of Requirements**: Document that provides specifications to manufacturers and enables them to build equipment that meets emergency responders' communications needs

- **Public Safety Architecture Framework**: Framework that helps emergency response agencies map system requirements and identify system gaps

- **Grant Guidance**: Resource that helps maximize the efficiency and effectiveness with which grant dollars relating to emergency-response communications-related grant dollars are allocated and spent

- **www.DisasterHelp.gov**: Web portal that provides a wealth of information for the general public and free services for the emergency response community

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Tools and Resources Available *Today* (Cont.)

- **Open Platform for Emergency Networks**: Supporting infrastructure that allows emergency managers to share incident information, regardless of system, when using standards-compliant products

- **Disaster Management Interoperability Services**: Software that offers emergency managers basic incident-management software tools

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SAFECOM Upcoming Tools and Resources

- Guide for a Memorandum of Understanding (MOU) – Tool that provides information on creating a framework for mutual accountability among multiple jurisdictions

- Guide for Standard Operating Procedures (SOP) Version 1 – Tool that provides instructions to assist emergency responders in creating effective SOPs

- Request for Proposal (RFP) Guidebook – Guide to assist practitioners with the RFP development process that will help maximize resources and inform purchasing decisions

- Improving Interoperability Through Shared Channels – Guide to help state and local interoperability coordinators create a regional channel plan

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Acceleration of Standards

The acceleration of standards is a key component of both SAFECOM and DM's work. SAFECOM focuses on communications standards; DM focuses on messaging and information sharing standards.

- SAFECOM supports the acceleration of the Project 25 standards that help produce equipment that is interoperable and compatible regardless of manufacturer. SAFECOM is working with the National Institute of Standards and Technology and the Department of Justice to develop and implement a Compliance Assessment Program to validate that P25 standardized systems are indeed P25-compliant, and that equipment from different manufacturers can interoperate.

- DM leads the Information Exchange Standards Initiative, a public-private partnership to create messaging standards to share information between disparate incident management systems and software applications.

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Acceleration of Standards (Cont.)

- DM supports the acceleration of emergency management exchange standards. The Organization for the Advancement of Structured Information Standards approved the Common Alerting Protocol and Distribution Element Standard, and more than 20 additional standards are in the approval process.

- DM participates in the National Information Exchange Model, which allows local, tribal, state, and Federal governments to effectively share critical information in emergencies, and supports the day-to-day operations of agencies nationwide.

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Shared Vision: Compatible Strategies

Objective: Achieve interoperability for the Nation's emergency responders

SAFECOM

✓Promote a system-of-systems approach through use of standards-based communications equipment.

✓Encourage establishment of governing bodies to foster a culture of cooperation and sharing across agencies and jurisdictions.

✓Support prioritization and funding of interoperability among local, tribal, state, and Federal leadership.

✓Advance standardization of training and exercise programs.

✓Support daily use of interoperable equipment throughout regions.

DM

✓Accelerate the development of data messaging and information-sharing standards by identifying practitioner requirements, formalizing standard processes, and working with software providers.

✓Support the infrastructure necessary to share information.

✓Ensure that emergency responders have the tools needed to manage incidents and share incident-related information.

✓Meet the Nation's need for a single access point for disaster management information.

Success: Emergency response and management communities are able to exchange voice and data on demand, in real time, when needed, and when authorized.
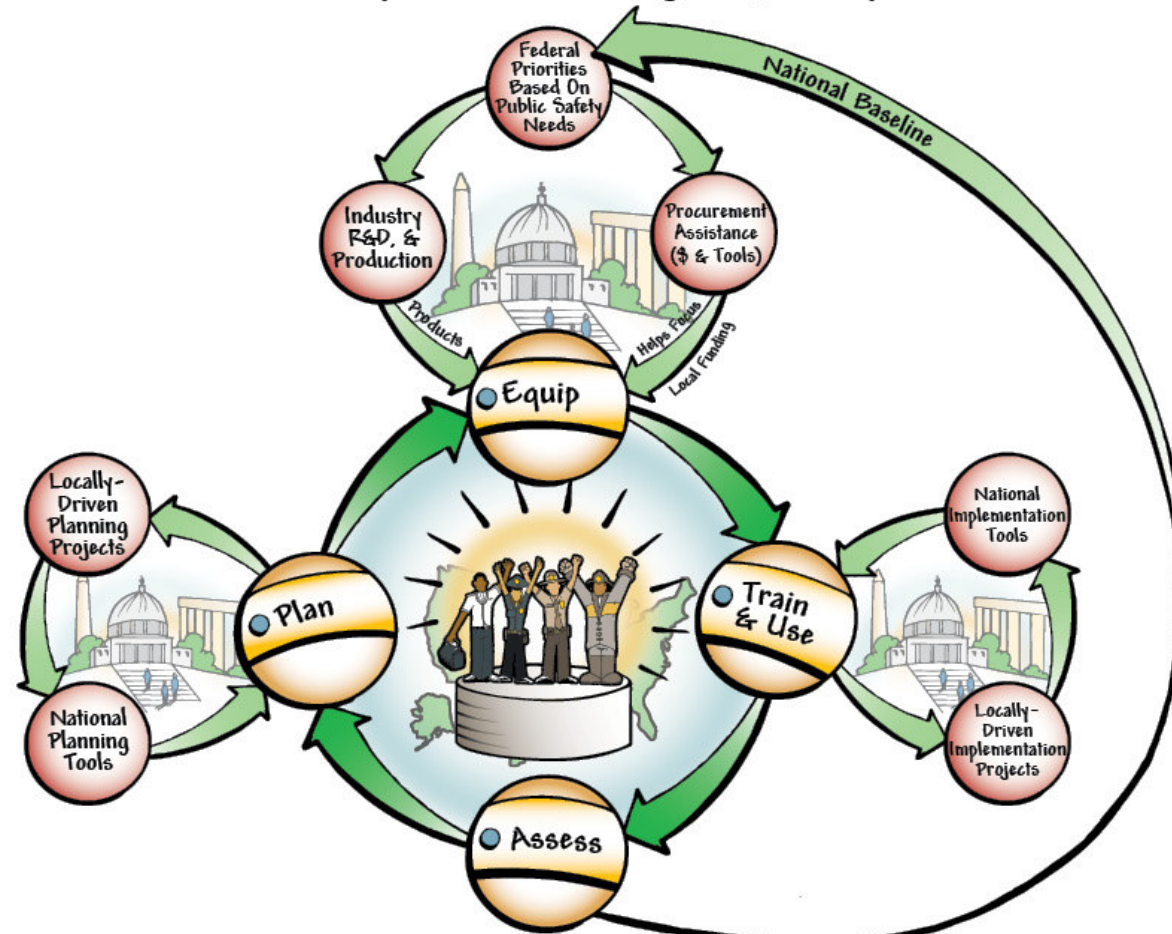
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Federal Impact on Emergency Responders

Federal Impact on Emergency Responders

The local emergency responder cycle for planning and implementing interoperability is at the heart of the national strategy for achieving interoperability. Coordinated Federal interoperability programs support and enhance activities in each of these phases. This support provides emergency responders with tools and guidance to ensure agencies and localities have the best information and resources available to improve interoperability today and plan for tomorrow.

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Communications Interoperability & Compatibility

Marilyn Praisner

Chair, SAFECOM Executive Committee

October 4, 2006

SAFECOM

Interoperable Communications

Communications interoperability is the ability of public safety agencies to talk across disciplines and jurisdictions via radio communications systems, exchanging voice and/or data with one another:

- on demand
- in real time
- when needed
- when authorized

Why is Interoperability Important?

- Improves the ability of public safety practitioners to reduce the loss of life and property in emergency situations.

- Facilitates rapid and efficient interaction among all public safety organizations

- Provides immediate and coordinated assistance in day-to-day missions, task force operations, and mass-casualty incidents

SAFECOM

Five Key Challenges
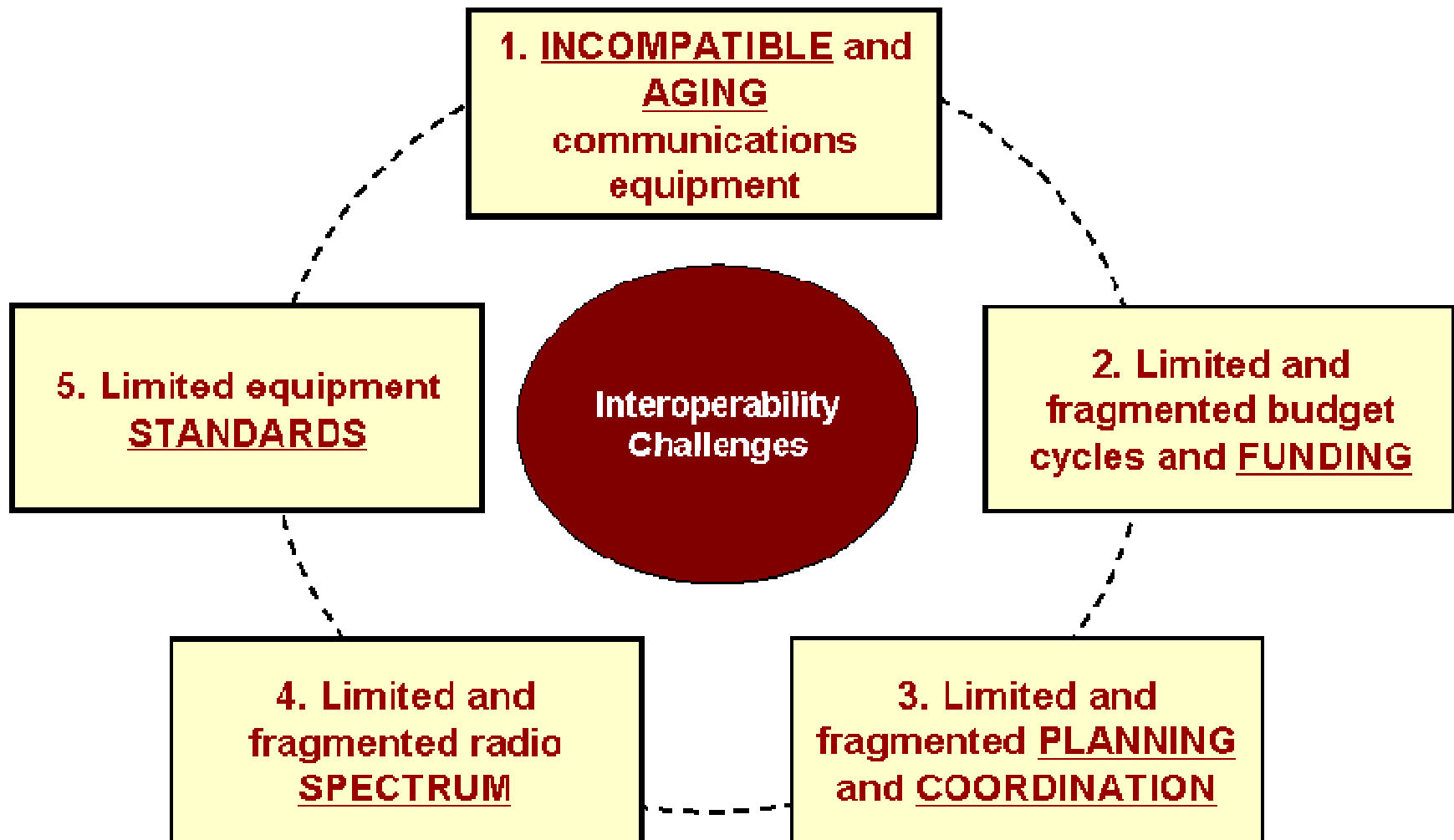
SAFECOM

SAFECOM provides research, development, testing, evaluation, guidance and assistance for local, tribal, state, and federal public safety agencies working to improve public safety response through more effective and efficient interoperable wireless communications.

- SAFECOM is a public safety practitioner-driven program that works cooperatively with more than 60,000 local and state public safety agencies.

- SAFECOM makes it possible for the public safety community to leverage resources by promoting coordination and cooperation across all levels of government.

With its partners, SAFECOM is working to ensure a safer America through effective public safety communications.

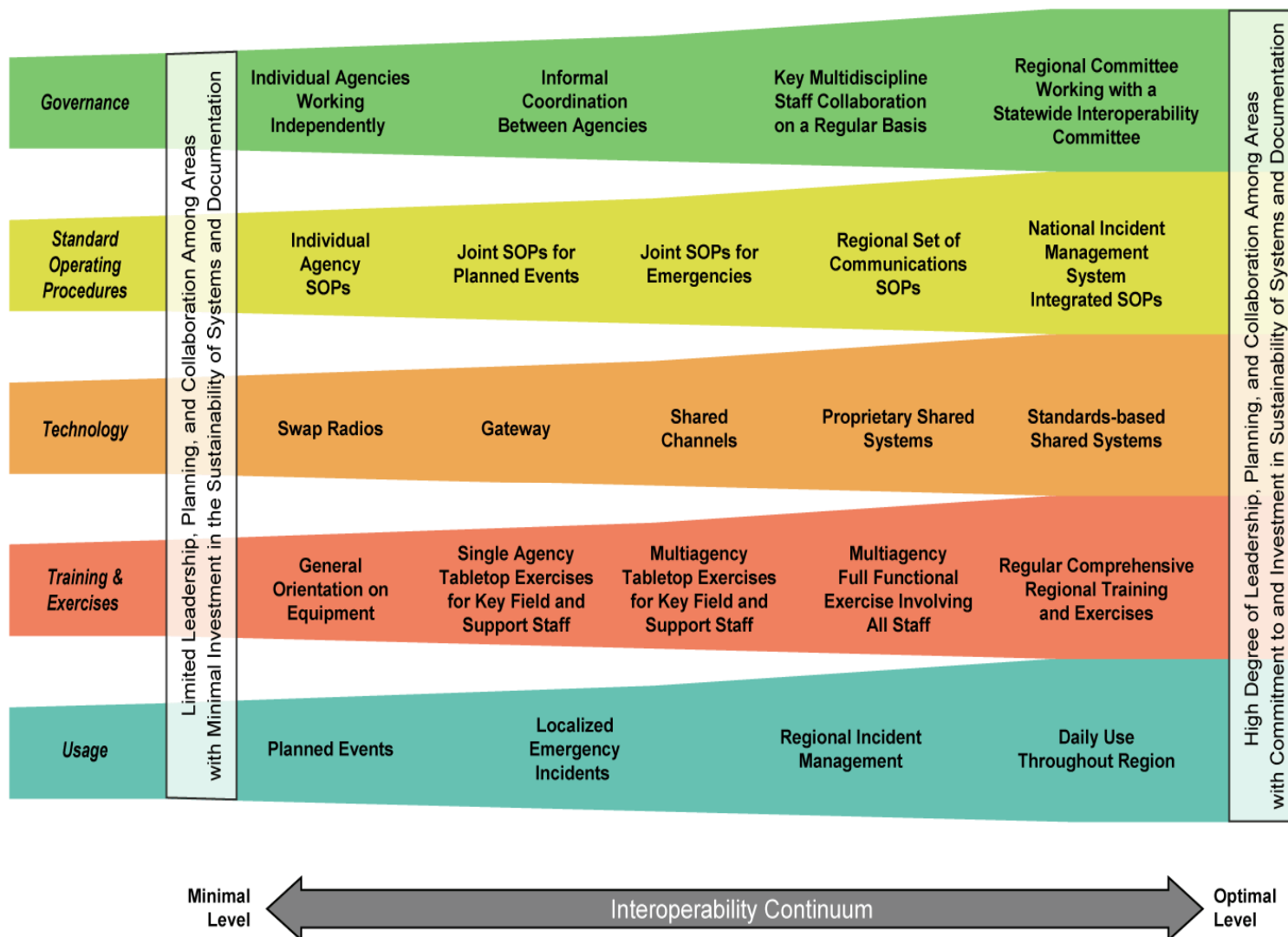# Practitioner-Driven Philosophy
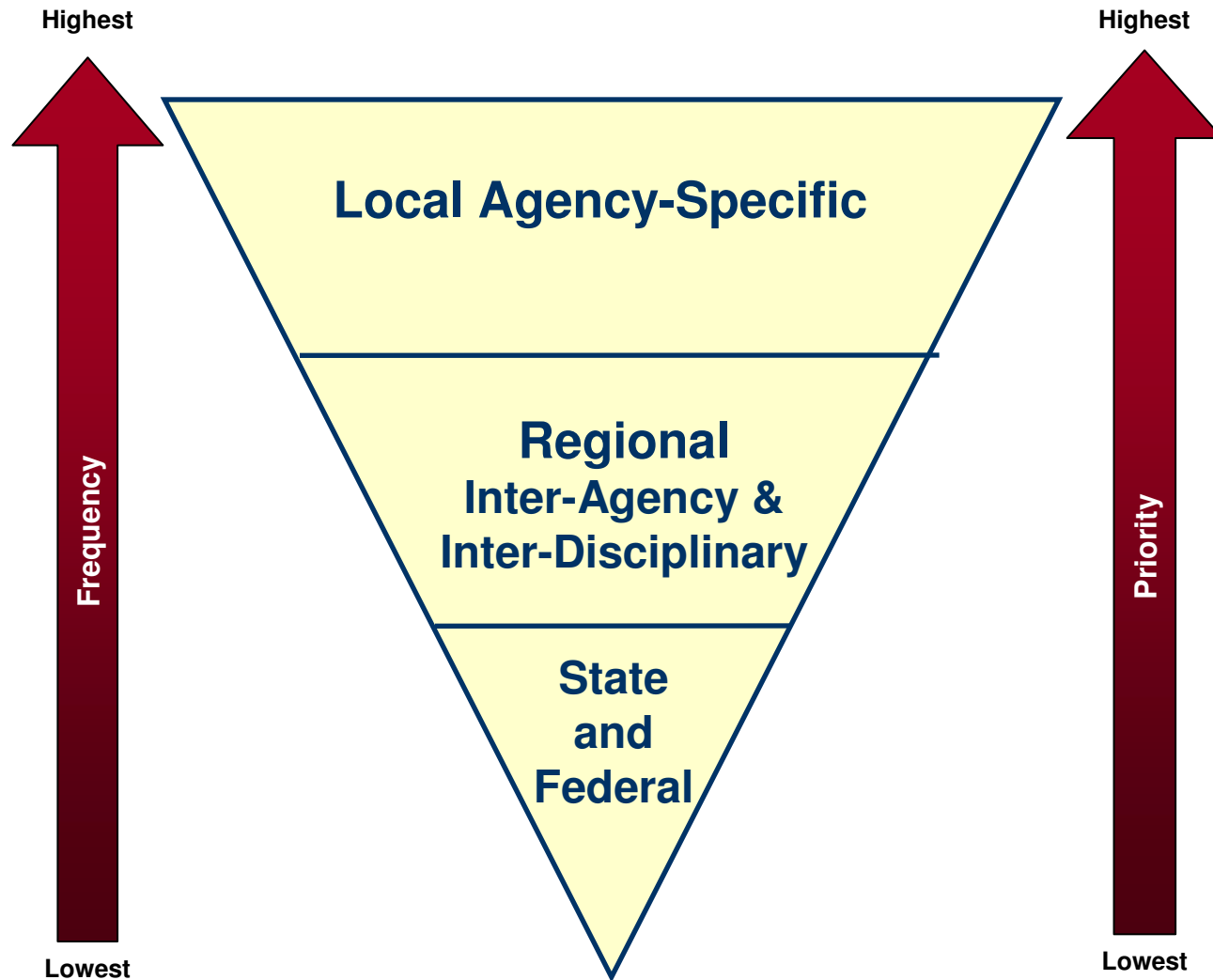
Governance Structure
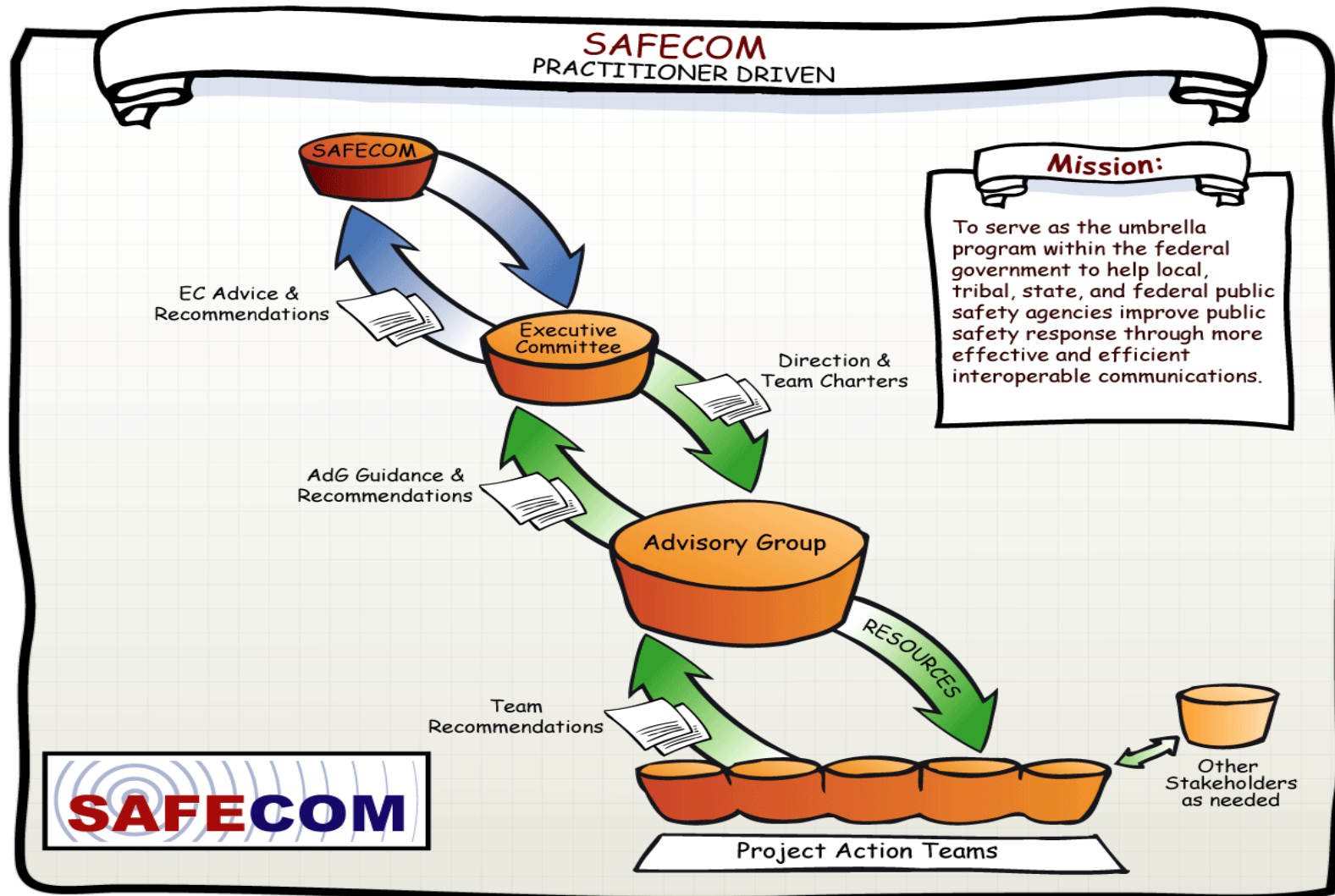
Communications Interoperability Projects

- Communications Interoperability Continuum

- Interoperability Baseline Initiative

- Common Federal Grant Guidance

- Public Safety Statement of Requirements (SoR)

- Acceleration of Standards Process

- Statewide Communications Interoperability Planning (SCIP) Methodology

SAFECOM

Communications Interoperability Continuum

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High Degree of Leadership, Planning, and Collaboration Among Areas with Commitment to and Investment in Sustainability of Systems and Documentation

Minimal Level ← Interoperability Continuum → Optimal Level

SAFECOM

Interoperability Baseline Initiative

- The Interoperability Baseline project is a 5 phase process that will measure the current state of communications interoperability across the Nation.

    –Establishes a coherent picture of current communications interoperability

    –Includes operational, governance, *and* technical considerations

    –Offers a yardstick to identify and drive investment needs

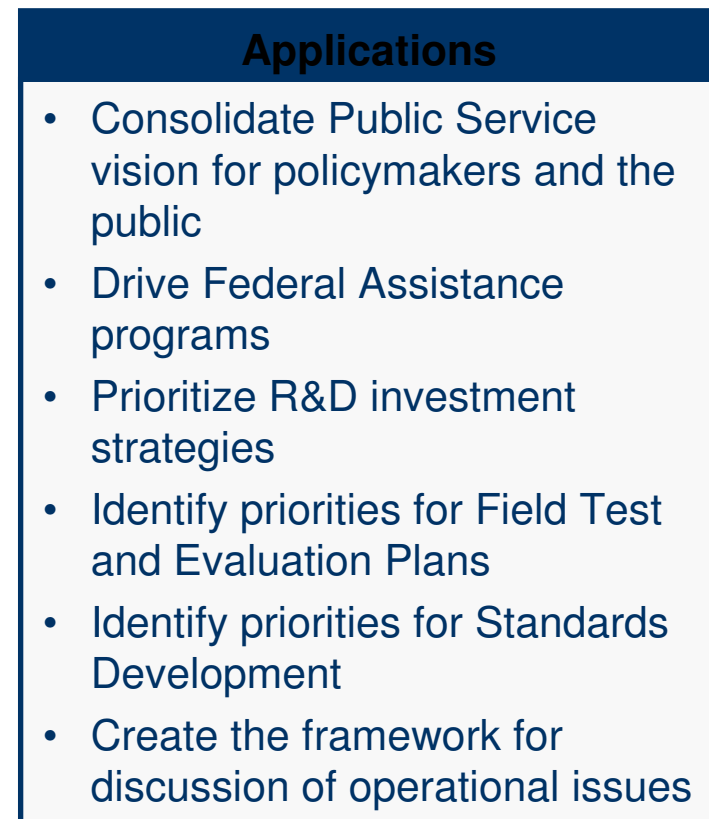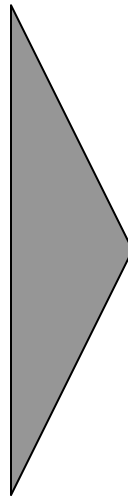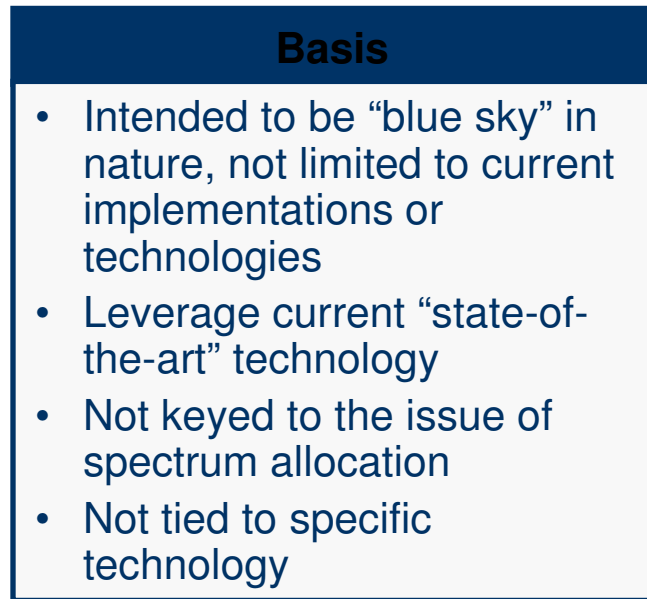   –Serves as an integrated component of SAFECOM's approach to interoperability

Grant Guidance

- With input from the public safety community, SAFECOM developed common grant guidance to federal agencies to assist in planning and implementing the community's interoperability solutions.

- Grant guidance provides federal grant dollar criteria to avert the creation of public safety communications systems stovepipes at the local and state levels.

SAFECOM

Statement of Requirements (SoR)

- Developed with public safety practitioner input, the SoR defines the *operational* and *functional* requirements for public safety practitioners to communicate and share information when it is needed, where it is needed, and when authorized.

Basis
• Intended to be "blue sky" in nature, not limited to current implementations or technologies
• Leverage current "state-of-the-art" technology
• Not keyed to the issue of spectrum allocation
• Not tied to specific technology

Applications
• Consolidate Public Service vision for policymakers and the public
• Drive Federal Assistance programs
• Prioritize R&D investment strategies
• Identify priorities for Field Test and Evaluation Plans
• Identify priorities for Standards Development
• Create the framework for discussion of operational issues

SAFECOM

Lifecycle Approach to Standards Development

SCIP Methodology

Statewide Communication
Interoperability Planning (SCIP)
Methodology
An Approach Based on the
Commonwealth of Virginia's Planning Process

Homeland Security   SAFECOM

Partnering to Save Lives
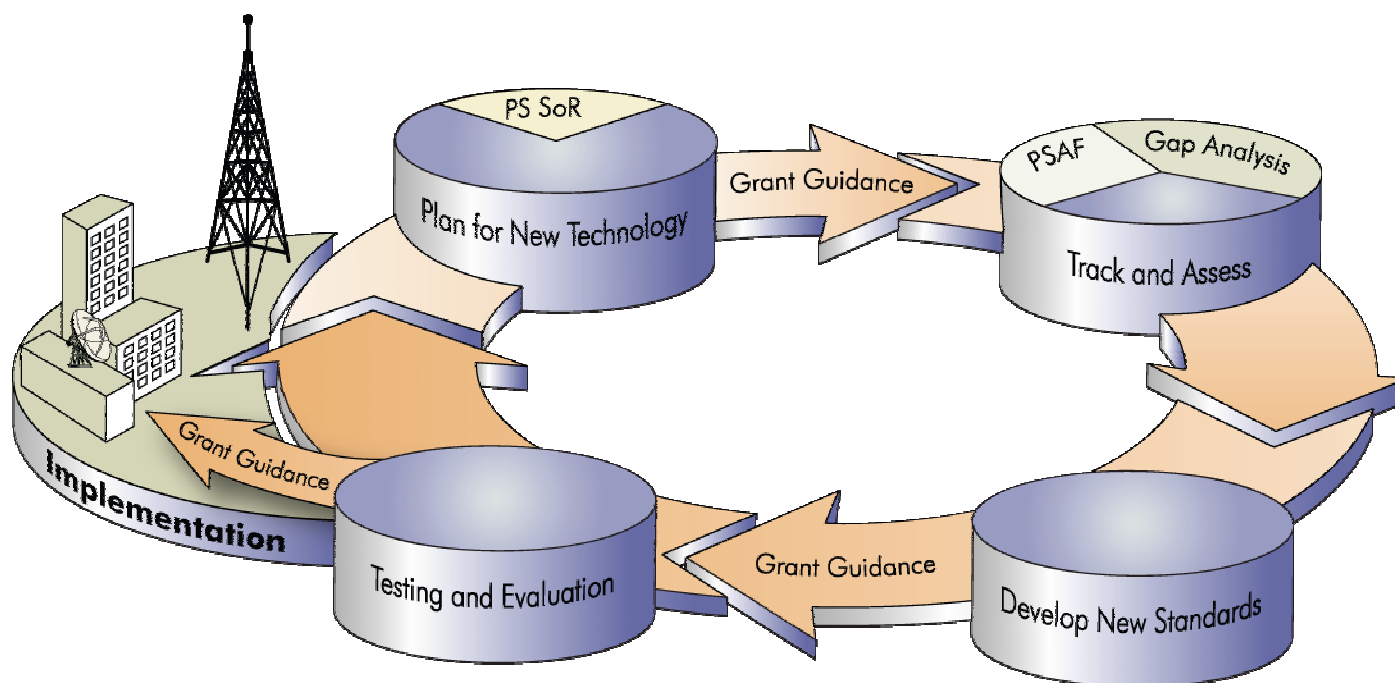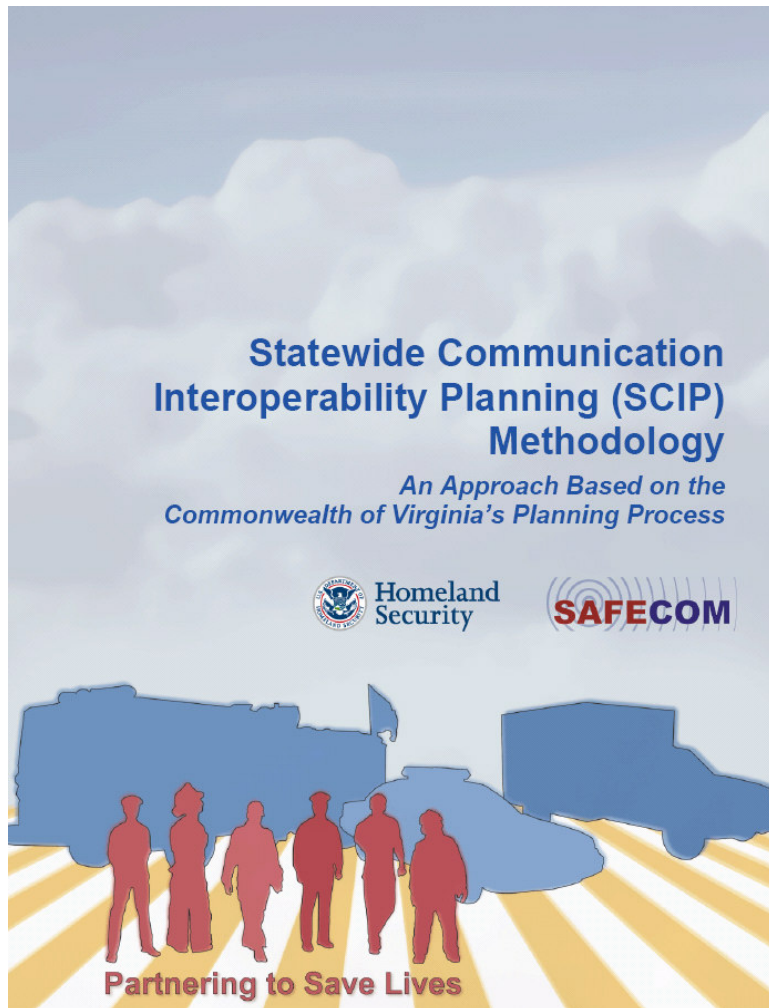
The Statewide Communications Interoperability Planning (SCIP) Methodology is a result of the collaboration between SAFECOM and the Commonwealth of Virginia in its development of a strategic plan for improving statewide interoperable communications.

The SCIP is a tool that outlines a step-by-step planning process for developing a locally-driven, statewide strategic plan to enhance communications interoperability.

SAFECOM

Ongoing Initiatives

- Develop standardized tools and methodologies for communications planning

- Pilot tools and methods as national models at the rural, urban, state, and/or regional levels for public safety

- Create a baseline of public safety communications interoperability for first responders

- Accelerate the development of communications standards

- Publish a national public safety architecture framework

- Implement a coordinated RDT&E program for public safety

SAFECOM

National Institute of **Justice**

NIJ

Communications Technology CommTech Portfolio

for the

Virginia Interoperable Communications Conference

Joe Heaps, Portfolio Manager

October 2006

NIJ's Mission

- To administer a program of research, development, testing and demonstration
  - NIJ is the research, development and evaluation arm of the U.S. DOJ
  - NIJ's primary focus is state and local criminal justice agency needs
- To establish and maintain advisory groups to assess the technology needs of Federal, State and local CJ agencies
  - Technical Working Groups (TWGs) composed of active LE officers provide guidance
- To establish and maintain performance standards, test and evaluate law enforcement technology and equipment, and establish programs to certify, validate and mark technologies and equipment conforming to these standards

| Research & Development | | Testing & Evaluation | | Pilot Programs |

| Standards | | Outreach & Technology Assistance |

CommTech Areas of Focus

| Research & Development | | Testing & Evaluation | | Pilot Programs |

Standards

Outreach & Technology Assistance
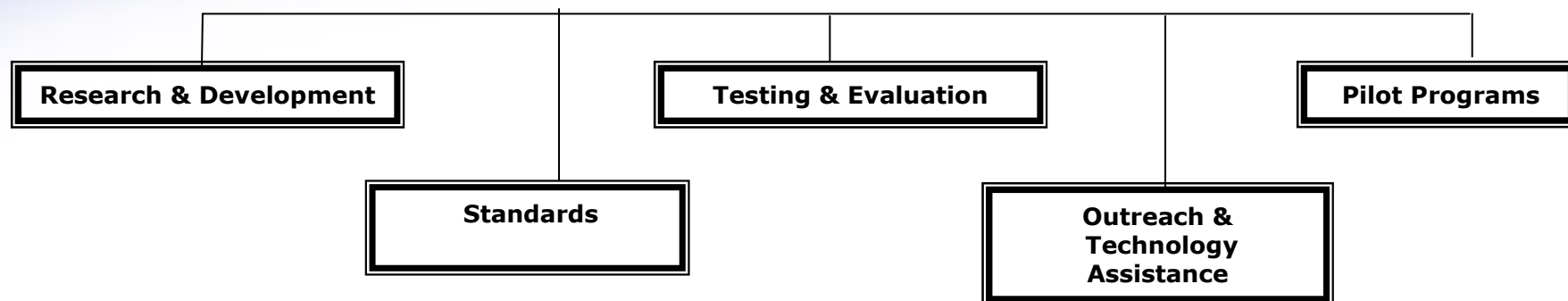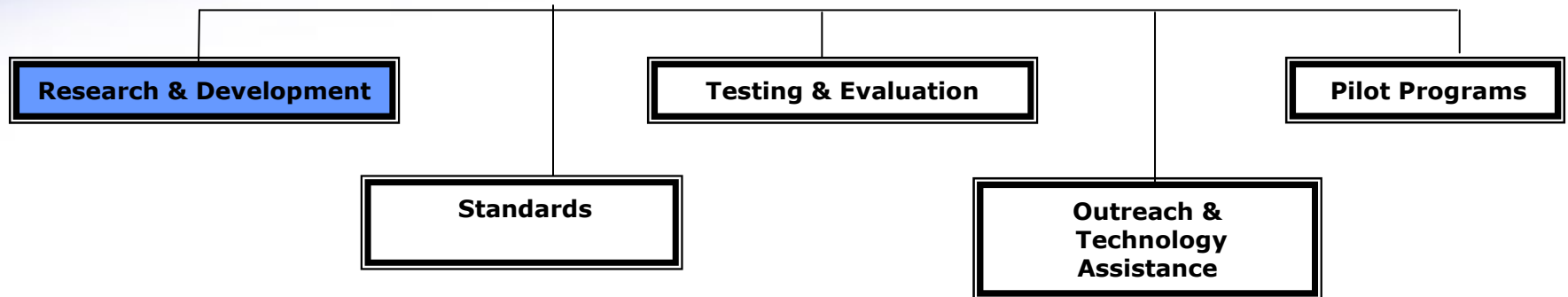
We are funding research and development in the following areas:

- Software Defined Radio
- Cognitive Radio
- Voice over IP
- Advanced Wireless Voice and Data
- In-building location and communication
- Cellular detection, location & defeat

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┌──────────────────────────┬──────────────────────┬──────────────────────┐
│  Research & Development   │  Testing & Evaluation │    Pilot Programs    │
└──────────────────────────┴──────────────────────┴──────────────────────┘
            │                         │
      ┌───────────┐          ┌──────────────────┐
      │ Standards │          │   Outreach &     │
      └───────────┘          │   Technology     │
                             │   Assistance     │
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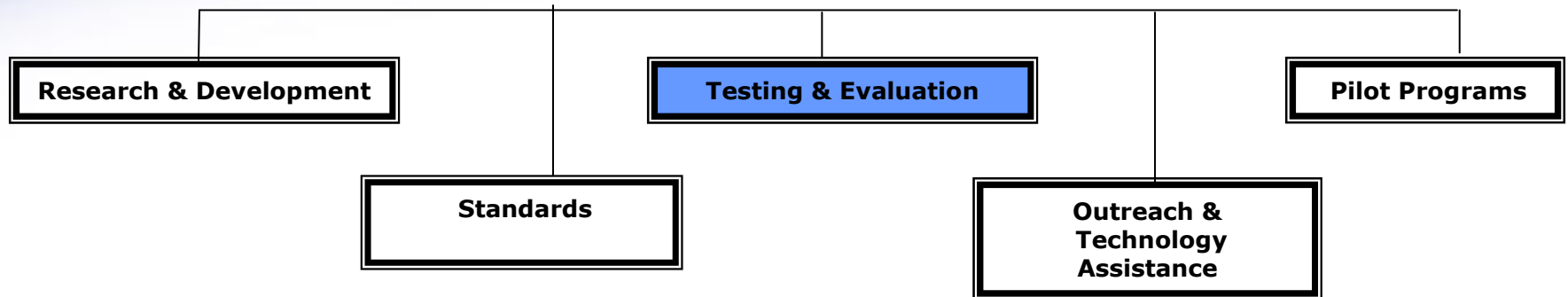
- Testing and evaluation of technology platforms to provide unbiased information to the public safety community
  - Conduct functional review
  - Perform technical evaluation/testing
  - Perform operational evaluation/testing

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        ┌─────────────────────┐  ┌──────────────────┐     ┌──────────────┐
        │Research & Development│  │Testing & Evaluation│    │Pilot Programs│
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              │ Standards│              │   Outreach &     │
              └──────────┘              │   Technology     │
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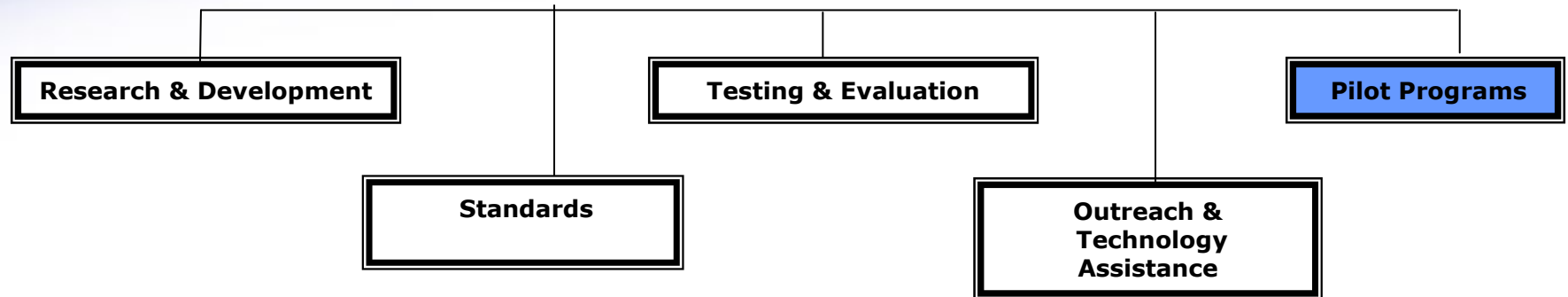
- Danville, VA Voice of Internet Protocol
- Software Defined Radio
- CommTech pilots consist of
  – A TWG requirement
  – A state and/or local law enforcement agency with operational cycles to devote.
  – Vendor

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| Research & Development | Testing & Evaluation | Pilot Programs |

| Standards | Outreach & Technology Assistance |
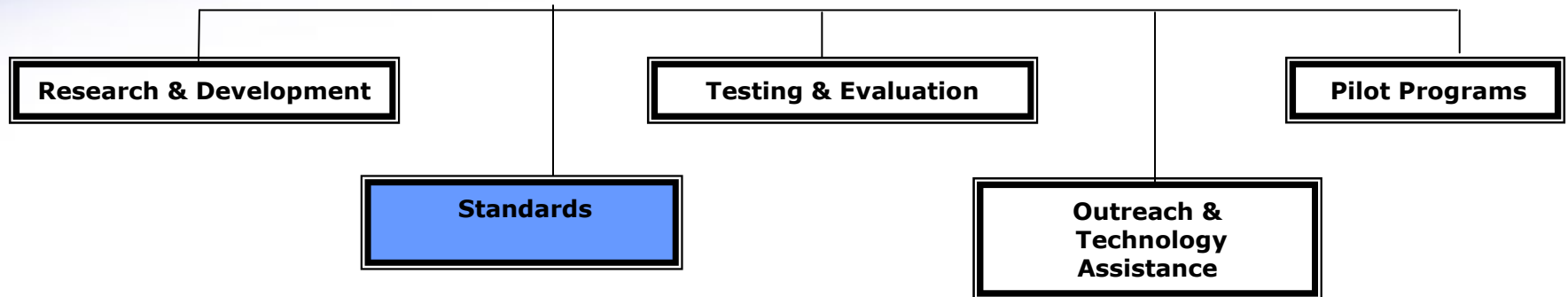
- To assist the development of standards that improve technology availability, cost, reliability & Interoperability
  - P25
  - Software Defined Radio

| Research & Development | | Testing & Evaluation | | Pilot Programs |

| Standards | | Outreach & Technology Assistance |
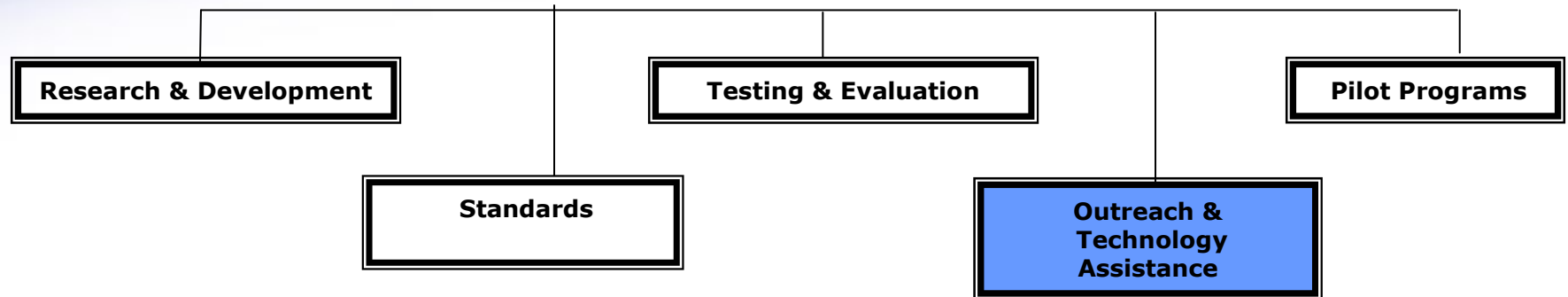
Provide unbiased outreach and technology assistance to the public safety community on communication technology related issues

- Support tactical operations
- Outreach

CommTech In Shorts

Our Partners

- NLECTC Center system (www.justnet.org)
- Federal, e.g., DoJ, DHS, DoC, DoD
- State and local (Virginia, Danville, NH PD)
- Private Industry

CommTech Key FY07 Thrusts

The CommTech Program will address both short and long term interoperability solutions involving wireless telecommunications and information technology applications to include:

- Multiband Software Defined Radio Technologies

- Cognitive technology

- Locator Technologies & real-time updates

- In-building coverage

- Non-terrestrial technologies

- Alternative, affordable, backbone interconnectivity for repeaters

- Form factor issues for multiband (antennas/batteries/weight)

- Mobile hybrid technology for broadband data (802.11/802.16/700Mhz)

- VoIP, including telephony (for example E911)

- Cellular detection, location & defeat

An example of a CommTech Pilot

The Cisco/Danville Project

Piedmont Regional Voice over IP Pilot (RVIP)

NIJ CommTech Role

- The Piedmont RVIP is a project between The City of Danville, Cisco Systems (and Sprint Nextel).

- NIJ CommTech is participating as an observer and as an adviser to the City of Danville Police.

  – *Cisco is the primary network designer & equipment provider, with assistance from local radio management resources.*

- NIJ CommTech personnel are documenting lessons learned.

- NIJ CommTech personnel directly assisted with development of the regional governance structure.

- NIJ is not providing funding for this project beyond manpower.

Piedmont RVIP Before/After

Area	Before	After
RF Interoperability	No common Frequency	Frequency cross-programming & VoIP gateway between systems
Officer – PSAP/ Dispatch operability	Officers left coverage of home system & contact with dispatch center	Remote PSAP access & direct officer access to compatible neighboring systems
Administrative & Governance issues	No mechanism for in place sharing/control of RF resources	Multi-Agency Gov. structure in place for sharing/control of Radio/VoIP resources

Piedmont RVIP Project Participants

Public Safety participants

- City of Danville, Virginia
    - VHF Radio System(s)
- Pittsylvania County, Virginia
    - VHF Radio System
- Caswell County, North Carolina
    - UHF Radio System
- North Carolina State Highway Patrol
    - Conventional VHF & Trunked 800MHz Radio Systems
- Virginia State Police
    - Regional VHF Radio channel & Virginia Statewide channel.

Corporate Participants

- Cisco Systems Inc. – Equipment and technology.
- Sprint Nextel – Networking links.

Funding opportunities

http://www.ojp.usdoj.gov/nij/funding.htm

Contact

Joe Heaps

CommTech Portfolio Manager

Joseph.heaps@usdoj.gov

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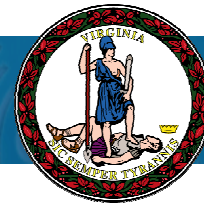
Dan M. Hawkins, Director
Public Safety Programs

SEARCH
The National Consortium for Justice
Information and Statistics

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Background on SEARCH
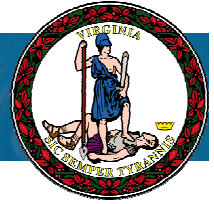
- ## What is SEARCH?
  - Non-profit consortium of the states formed in 1969
  - Sacramento headquarters with a Washington office
  - Staff of 40 professionals

- ## SEARCH Mission

  SEARCH is dedicated to improving the quality of justice and public safety through the use, management and exchange of information; application of new technologies; and responsible law and policy, while safeguarding security and privacy."

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Technical Assistance Program
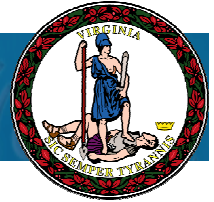
Methods:

- Conferences, workshops, summits, and other facilitated training

- Publications, including issue briefs, white papers, and guides offering in-depth analysis of technology issues and specific management recommendations

- Direct technical assistance, Onsite and in-house, using best practices in technology project governance, planning and project management

SEARCH
National
Technical
Assistance
Program

Assisting justice and public safety to develop, operate, secure and improve information sharing and identification systems.

Make Technology Work for You

Justice • Public Safety • Homeland Security

www.search.org

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Technical Assistance Program
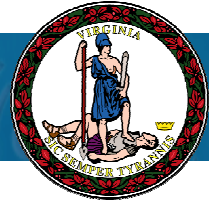
- ## COPS Interoperable Communications Technology Program (ICTP)
  - Interagency communications projects across 2003-2006 grantees (65 grants)

- ## COPS Technology Program
  - Projects of many types across 2003-2006 grantees (~1350 grants)

- ## DHS Interoperable Communications Technical Assistance Program (ICTAP)
  - Urban Area Security Initiative (UASI) and State Homeland Security grantees

TA Focus Areas

Effective governance structures development

Acquisition document development (RFI/RFP)

Systems evaluation

Information exchange analysis

Business process documentation

Technical documentation review

Needs analysis and assessment

Policy and procedure development

Strategic planning

IT procurement planning

Security assessments

Legal, policy and technical research

Infrastructure assessment

Meeting facilitation

Requirements development

Technology planning workshops

Statistical analysis

Standards development (XML, data exchange, functional, performance)

Information security policy development

Computer forensics policy and unit development

Performance measures development

"Very specific, practical and hands-on."

— Terry Speiker,
Intergovernmental
Relations Director,
Ramsey County
(Minnesota)
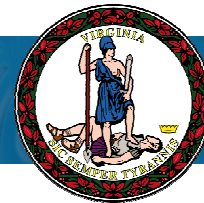
Virginia
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Communications
Conference

Direct Technical Assistance

ICTP Grants
- FY03 (blue)
- FY04 (red)
- FY05 (yellow)
- FY06 (cyan)

Virginia
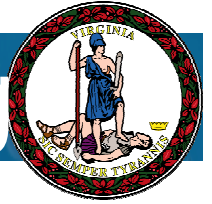Interoperable
Communications
Conference
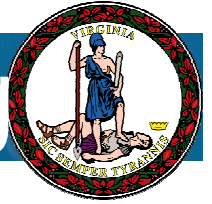
ICTP Kickoff Conferences

- FY2003 Grantees
  Washington, D.C.
  February 2004

- FY2004 Grantees
  Miami
  December 2004
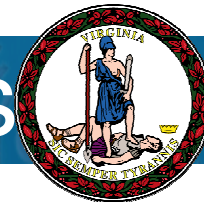
- FY2005 Grantees
  Phoenix
  November 2005

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ICTP Advanced Workshops

- Denver
April 2005

- Columbus
June 2005

- Charlotte
July 2005

- San Francisco
September 2006

- Atlanta
November 2006

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National Interoperability Summit

May 24 - 25, 2006
Austin, Texas

Co-sponsored by DOJ & DHS

Approximately 150 persons representing interagency communications projects from state, local, and federal government.
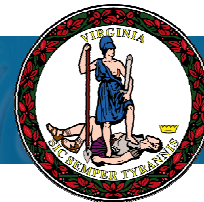
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Technical Assistance Tools

U.S. Department of Justice
Office of Community Oriented Policing Services

COPS
COMMUNITY ORIENTED POLICING SERVICES
U.S. DEPARTMENT OF JUSTICE

LAW ENFORCEMENT
Tech Guide
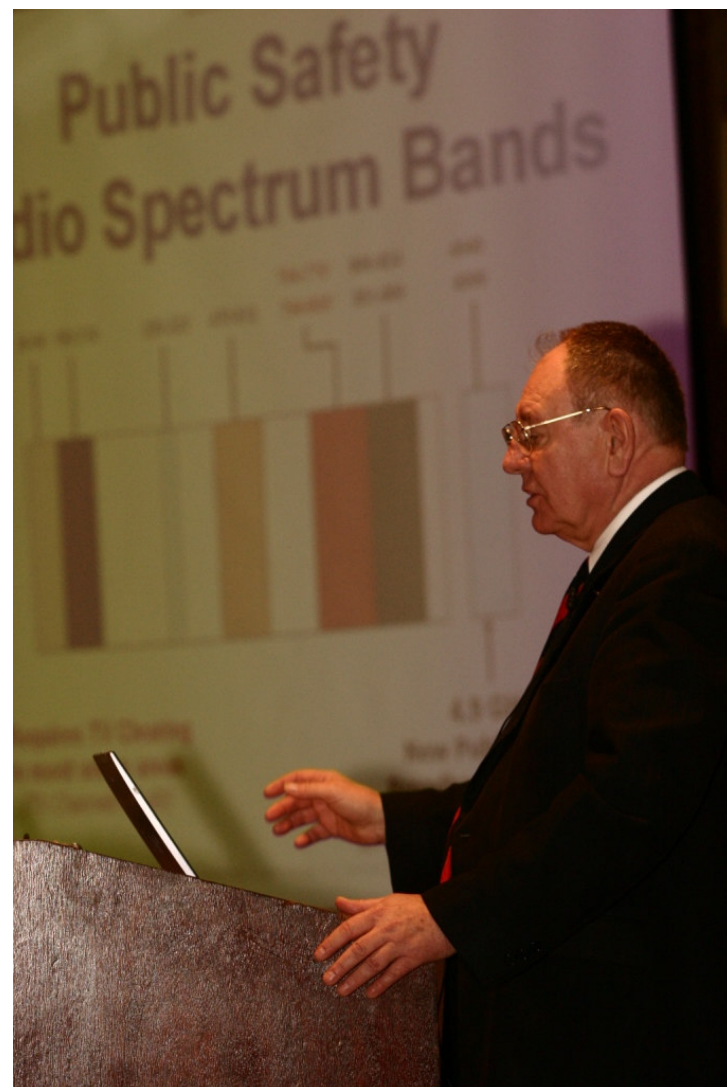
How to plan, purchase and manage technology (successfully!)
A Guide for Executives, Managers and Technologists
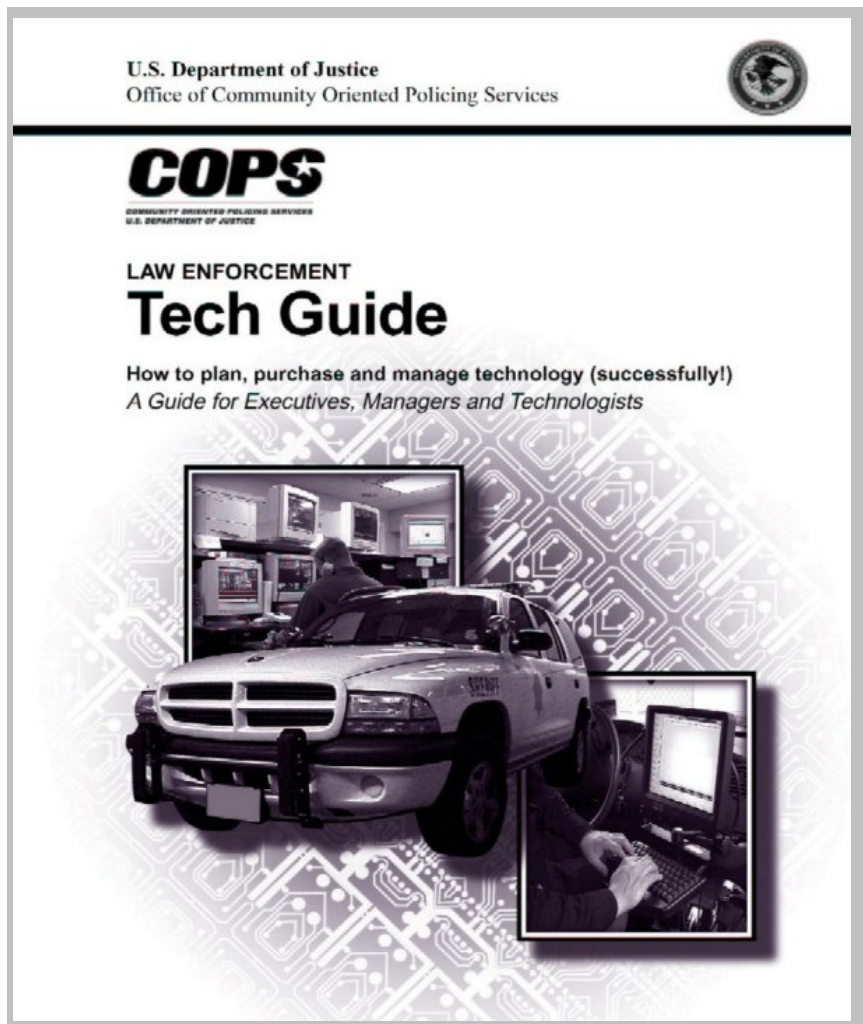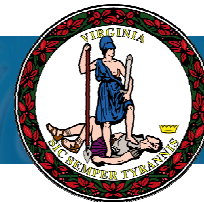
- *Law Enforcement Tech Guide*
  – Published in 2002
  – Approx. 10,000 copies distributed
  – Self-directed guide
  – Text for training

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8

About the Guide

Law Enforcement IT Projects:
A Roadmap to the Guide

① Project is Initiated

② Establish a Decisionmaking Structure
 a. Recruit an executive sponsor
 b. Assign key project members

③ Create a Project Charter
 a. Articulate a vision, initial scope and preliminary objectives

④ Conduct a Needs Analysis
 a. Document existing technology
 b. Map and reengineer business processes
 c. Conduct user interviews and focus groups
 d. Identify system operational requirements
 e. Assess compatibility with existing and upgrade projects
 f. Prepare conceptual design

⑤ Create a Project Plan
 a. Define scope, objectives, approach
 b. Determine milestones and timelines
 c. Conduct risk assessments
 d. Develop communications strategies

⑥ Acquire the Technology
 a. Develop specifications and bid materials
 b. Evaluate and select a vendor

⑦ Implement the Technology
 a. Create an implementation plan
 b. Form an implementation team
 c. Conduct system acceptance testing
 d. Provide training

⑧ Manage Change
 a. Conduct training
 b. Continue planning and budgeting
 c. Conduct project reviews and benchmarking
 d. Document project lessons learned
 e. Maintain/enhance system

- *Law Enforcement Tech Guide*
  - Staple reference for direct technical assistance provided to agencies
  - Friendly, usable
  - Practical application to public safety projects of all sorts

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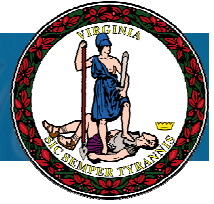# Technical Assistance Tools
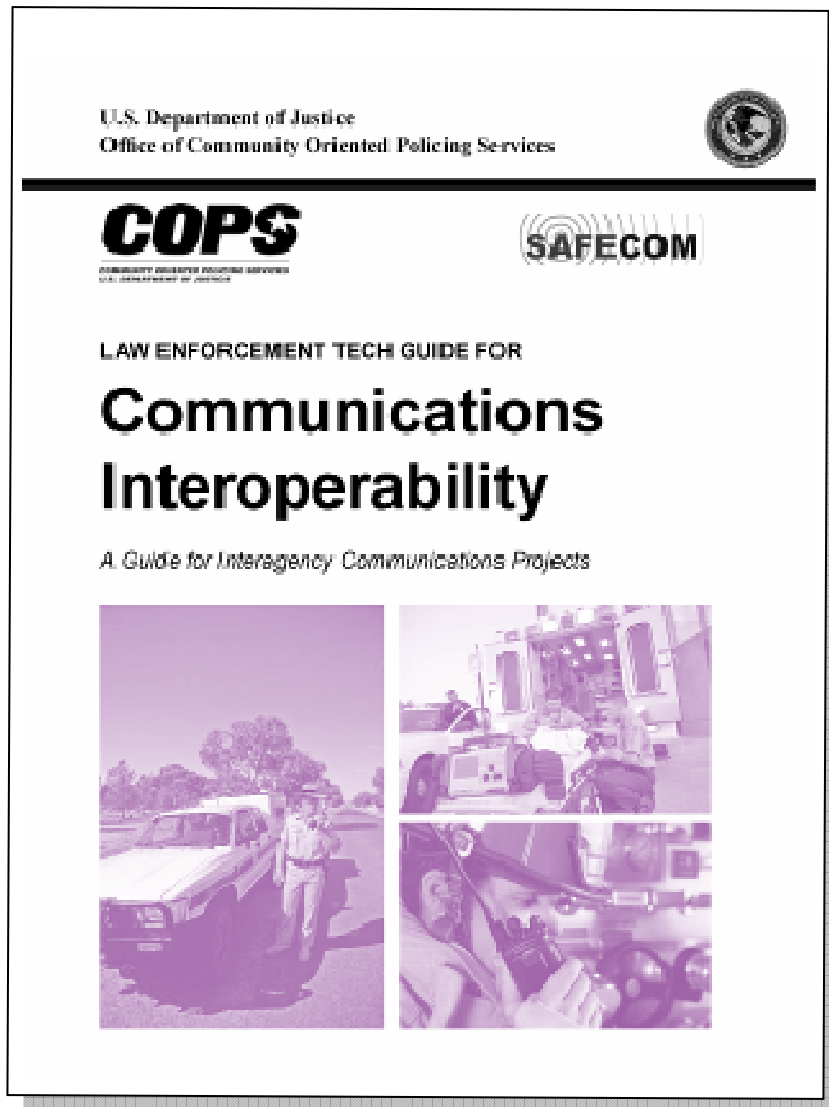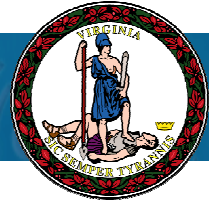
- *Interoperability Tech Guide*
  - Companion to the Law Enforcement Tech Guide
  - For interagency communications projects of <u>all</u> disciplines
 - September 2006 publication

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Technical Assistance Tools

U.S. Department of Justice
Office of Community Oriented Policing Services

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LAW ENFORCEMENT TECH GUIDE FOR

Communications Interoperability

A Guide for Interagency Communications Projects
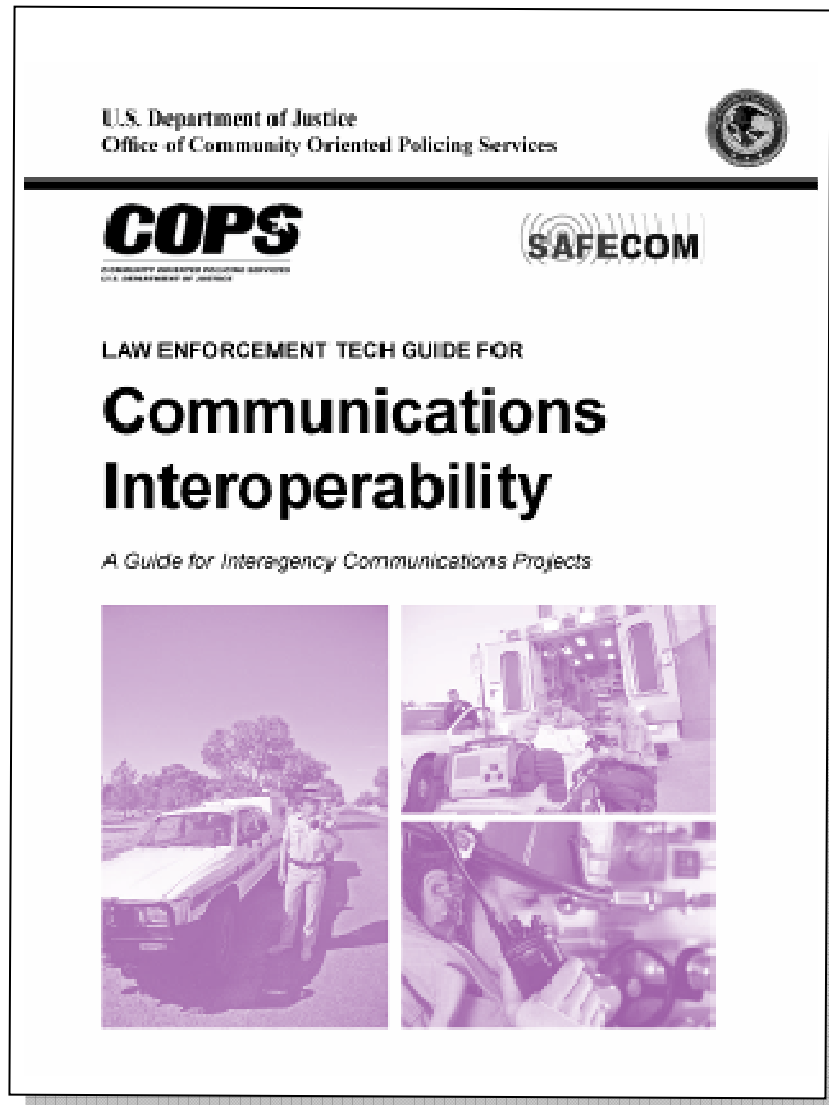
- **Review Committee**
  - Harlin McEwen
  - Joe Noce
  - John Powell
  - Steve Proctor
  - Marilyn Ward
- **Further review**
  - DOJ, DHS, Global

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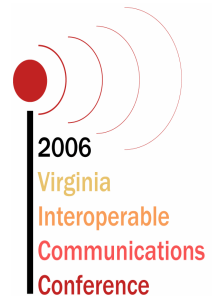
IO Tech Guide - Contents
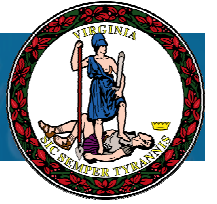
- **What is Interoperability?**
  - 1. Introduction: A Changing Environment
  - 2. Key Challenges and Critical Elements
  - 3. Operability – Job #1
  - 4. Interoperability and the Integrated Enterprise
- How is Interoperability Achieved?
- Exploring the Technologies
- Appendices

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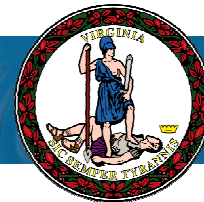
- What is Interoperability?

- How is Interoperability Achieved?
  - 5. Build an Interagency Foundation
  - 6. Conduct a Needs Analysis
  - 7. Scope the Work to be Done

- Exploring the Technologies

- Appendices

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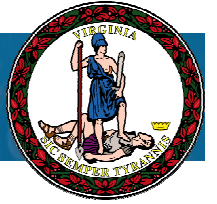
- What is Interoperability?

- How is Interoperability Achieved?
  - 8. Create a Project Plan
  - 9. Acquire the System Components
  - 10. Implement the System

- Exploring the Technologies

- Appendices

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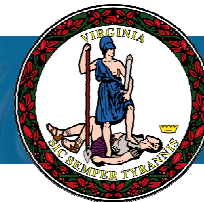
- What is Interoperability?
- How is Interoperability Achieved?
  - 11. Transition to Long-Term Governance
  - 12. Develop Policies and Procedures
  - 13. Train and Exercise
- Exploring the Technologies
- Appendices

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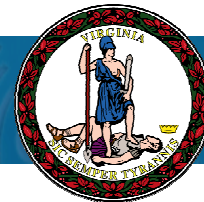
- What is Interoperability?

- How is Interoperability Achieved?

  - 14. Maintain the Technology
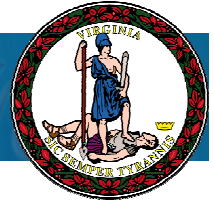
  - 15. Measuring Interoperability

- Exploring the Technologies

- Appendices

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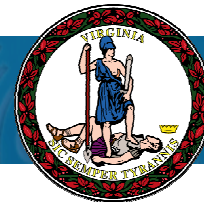
- What is Interoperability?

- How is Interoperability Achieved?

- **Exploring the Technologies**
 - 16. Voice Communications
  - 17. Data Communications

- Appendices

www.interoperability.virginia.gov

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- What is Interoperability?

- How is Interoperability Achieved?

- Exploring the Technologies

- Appendices
  - A. Sample Agreements
  - B. SOP Examples
  - C. ICS Communications Position Duties
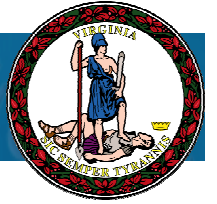 - D. Interoperability Assessment Scorecard

IO Tech Guide - Contents
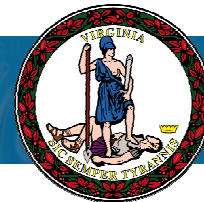
- What is Interoperability?

- How is Interoperability Achieved?

- Exploring the Technologies

- **Appendices**
  - E. Bibliography
  - F. Glossary
  - G. SAFECOM Interoperability Continuum

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Sources: Tech Guides

- **Online**
  - COPS: Publications are available at

    http://www.cops.usdoj.gov/default.asp?Item=118

  - SEARCH: Complete versions of the larger documents can be found as single files at
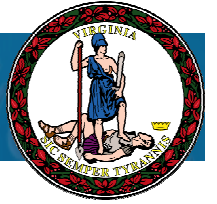
    http://www.search.org/services/publications/

- **Hard Copy**:
  - Distributed by the COPS Office. Contact the COPS Office Response Center

    800-421-6770 or by email at askCOPSRC@usdoj.gov

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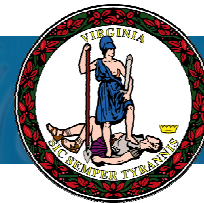# Contact Information

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(916) 392-2555 x302

dan.hawkins@search.org

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The Federal Perspective Panel

QUESTIONS?

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